provide accurate location information on the part of the disk which is being scanned by the light beam.

In the Drawings:

Please amend the drawings by adding a Fig. 7 showing a partial section view of the disc 36 of Fig. 3 as shown on the attached sheet presenting said figure informally.

In the Claims:

Please amend claims following claims, a marked up set of the claims is appended hereto:

45. (Amended) A multi-well assay plate structure comprising an upper surface and a lower spaced opposed surface, said upper and lower surfaces defining a space therebetween, the lower surface having a plurality of wells therein, at least one opening providing access to said space from an external location, the spacing between said upper and lower surfaces being provided to facilitate fluid flow by capillary action of a fluid introduced into said space through said opening to substantially fill the space and cover all of the wells, the wells being proportioned and dimensioned such that when excess fluid is subsequently withdrawn through said one or another opening, the wells remain substantially filled with liquid.

51. (Amended) The assay plate structure of claim 45 wherein said opening for introducing a fluid is provided to receive the end of a liquid injecting device, and said one opening forms a substantially air-tight seal around said end.

58. (Amended) The assay plate structure of claim 57 wherein the other of the upper and lower plates may comprise a reflecting surface for providing improved signal detection.

63. (Amended) The assay plate structure of claim 62 wherein the planar surface of at least one of said inserts includes upstanding walls around at least a portion of a periphery of said surface for the purpose of sealing the inner edges of the insert to the opposed planar surface of the disc, thereby to prevent seepage of liquid around the insert.

66. (Amended) The assay plate apparatus of claim 65 wherein the structures and disc are made of plastic to allow the sectors to be snap-fitted onto the disc.

68. (Amended) The assay plate structure of claim 45 wherein the plate structure has a circumferential gutter extending around a periphery of said plate structure to facilitate collection of fluid following fluid withdrawal from the chamber.

70. (Amended) The multi-well assay plate structure of claim 45 wherein the plate structure is provided in the form of a disc and includes digitally encoded address information.

71. (Amended) The multi-well assay plate structure of claim 45 wherein the plate structure is transparent for an optical inspection of said wells from outside the structure.

72. (Amended) An assay plate structure for use in conducting optical assays of a fluid analyte, the plate structure comprising:

a disc for rotation about a central axis, the disc having upper and lower plates spaced apart a distance to facilitate the flow of a fluid between said plates by capillary action and a plurality of substantially radially extending walls disposed between the plates, said walls sub-dividing the disc into a plurality of disc sectors; and

a plurality of disc inserts arranged to be received by respective disc sectors and to be retained therein,

the structure further including a plurality of openings through the upper plate, at least one opening above each disc sector for introducing a liquid analyte into the sector space between the upper plate and the disc insert, the upper surface of each disc insert and the opposed surface of the upper plate being substantially planar, and the flow of fluid between the upper plate and the disc insert being facilitated by capillary action.

74. (Amended) The assay plate structure of claim 72 wherein the plate structure is provided in the form of a disc and includes digitally encoded address information.

C10

75. (Amended) The assay plate structure of claim 72 wherein the plate structure is transparent for an optical inspection of said wells from outside the structure.

C11

81. (Amended) The method of claim 79 wherein the surfaces with wells having ~~the first~~ reagent are prior prepared for loading into the structure.

83. (Amended) The method of claim 79 wherein the chamber structure is provided in the form of a disc and includes digitally encoded information.

C12

84. (Amended) The method of claim 79 wherein the chamber structure is transparent for an optical inspection of said wells from outside the structure.

85. (Amended) A method of conducting an assay using a multi-sample assay plate structure comprising:

an upper surface,

a lower surface spaced from the upper surface by wall means to define a chamber with the upper and lower surfaces spaced a distance apart, to facilitate the flow of a fluid between said surfaces by capillary action,

the chamber having an inlet and an outlet, the inlet and outlet allowing fluid to be introduced to, and withdrawn from, the chamber, the lower surface being adapted to receive spots of an insoluble substrate, carrying a first reagent, or no reagent if a control spot, to create a plurality of separate reaction sites , and at least a second reagent is present in the fluid for reacting with the first reagent to create an observable reaction in the chamber.

C13

87. (Amended) The method of claim 85 wherein the assay plate structure is provided in the form of a disc and includes digitally encoded address information.

88. (Amended) The method of claim 85 wherein the plate structure is transparent for an optical inspection of said wells from outside the structure.

97. (Amended) The assay plate structure of claim 96 wherein the other of the upper and lower plates may comprise a reflecting surface for providing improved signal detection.

98. (Amended) The assay plate structure of claim 89 wherein the plate structure is provided in the form of a disc and includes digitally encoded information.

99. (Amended) The assay plate structure of claim 98 wherein the plate structure is transparent for an optical inspection of said wells and encoded information from outside the disc.

100. (Amended) A method of conducting a chemical or biochemical assay said method comprising:

providing a surface within a substantially enclosed chamber having a plurality of reaction sites at spaced locations to allow monitoring of a reaction at each site location, said surface being treated to increase surface hydrophobicity between sites, the sites being treated to increase the hydrophilicity thereof to retain a volume of fluid at each site following introduction of a fluid into, and subsequent withdrawal of excess fluid from, the chamber, and the chamber being provided to facilitate the flow of a fluid in said chamber by capillary action,

treating each site with a first reagent, flooding the enclosed chamber and covering the sites with a fluid carrying at least a second reagent,

removing excess fluid from said chamber to leave a mixture of said first and second reagents at each site, and

optically assessing sites and determining if a reaction occurred and correlating the reaction results to provide an assay of the chemical or biochemical reactions under test.

102. (Amended) The method of claim 100 wherein after optical assessment of the results of the assay, an automated fluid handling apparatus is used to inject and withdraw rinsing fluid a predetermined number of times from the chamber to clean the sites for receiving subsequent samples for assay.